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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/580,194 | 05/23/2006 | Karl Kuhmann | 290167US0PCT | 1812 |
| 22850 7590 02/06/2008 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | EXAMINER AUGHENBAUGH, WALTER | |
| | | | ART UNIT 1794 | PAPER NUMBER |
| | | | NOTIFICATION DATE 02/06/2008 | DELIVERY MODE ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/580,194 | KUHMAN ET AL. | |
| | Examiner | Art Unit | |
| | Walter B. Aughenbaugh | 1794 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5 IDSs</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because legal phraseology such as “comprises” (line 1) and “comprising” (lines 2 and 3) should be avoided, and “[t]he abstract should be in narrative form and generally limited to a single paragraph...” (MPEP 608.01(b)C): the abstract is not in narrative form and is not limited to a single paragraph.

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 6 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites the limitation "the molding composition of the inner layer" in line 2.

There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the inner sublayers" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the molding composition of the inner layer" in line 2.

There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the inner sublayers" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Gluck et al. (USPN 6,254,949).

In regard to claims 1 and 9, Gluck et al. teach a line (tube, see, for example, col. 7, lines 11-17) which comprises an outer layer comprising a polyamide molding composition (composition B, see, for example, col. 4, line 63-col. 5, line 6 and col. 7, lines 1-41) and an inner layer comprising polypropylene (col. 4, lines 1-6, which cites a portion of USPN 4,174,358, which discloses ethylene-propylene copolymers [such as ethylene/propylene/diene copolymers, col. 7, lines 41-47 of USPN 4,174,358] as suitable impact modifiers) and a heat stabilizer (col. 4, lines 7-24), where the amount of the heat stabilizer is disclosed as preferably being “up to 1% by weight” (col. 4, lines 20-24), a range that overlaps with the claimed amount of “at least 0.02% by weight”. Gluck et al. teach that the tube can be used as a tube for coolant (see, for example, col. 2, lines 18-25).

In regard to claim 2, Gluck et al. teach embodiments where the inner and outer layers are joined to one another via a bonding layer (embodiments where article comprises at least two layers comprising composition A and at least two layers comprising composition B where the layers alternate between having compositions A and B [for example, A/B/A/B], col. 7, lines 58-61, 63-64 and col. 7, lines 27-35) (where, for example, one of the layers between the outermost

A layer and the innermost B layer [or vice versa] correspond to the claimed bonding layer since the outermost A layer and the innermost B layer are bonded to each other via the layers between the outermost A layer and the innermost B layer).

In regard to claim 3, Gluck et al. teach that the material of the inner layer is adhesion-modified (see, for example, col. 7, lines 27-35).

In regard to claim 4, Gluck et al. teach embodiments where the inner layer is composed of two sublayers of which the one adjacent to the polyamide layer is adhesion-modified (col. 7, lines 58-61, 63-64 and col. 7, lines 27-35).

In regard to claim 5, Gluck et al. teach that the heat stabilizer is a sterically hindered phenol (col. 4, lines 11-24).

In regard to claims 6 and 7, claims 6 and 7 have not been treated on their merits due to the indefiniteness of the claims. See 35 U.S.C. 112, second paragraph, rejection made of record above in this Office Action.

In regard to claim 8, as stated above in regard to claim 1, Gluck et al. discloses that the ethylene-propylene copolymers disclosed in the portion of USPN 4,174,358 cited by Gluck et al. at col. 4, lines 1-6, which discloses ethylene-propylene copolymers as suitable impact modifiers, are a suitable material for the impact modifier of composition A. USPN 4,174,358 discloses that a melt flow rate of 0.5 to 400 g/10min is suitable as the melt flow rate of the ethylene-propylene copolymer, and that 0.5 to 100 g/10min is a preferred range (col. 7, lines 41-47 of USPN 4,174,358): both of these ranges disclosed by Gluck et al. via USPN 4,174,358 overlap with the claimed range of 0.1 to 3 g/10min.

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In regard to claim 11, the layer II of Gluck et al. has a thickness that is greater than 0.3 mm (col. 11, lines 45-60).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gluck et al. (USPN 6,254,949) in view of Chou (USPN 7,199,188).

Gluck et al. teach the line as discussed above in regard to claim 9.

Gluck et al. fail to explicitly teach that the copolymer contains an amount of "ethene in copolymerized form" (as recited in claim 10) that falls within the range recited in claim 10.

Chou, however, disclose a polyamide composition that comprises an impact modifier, where the impact modifier is a copolymer that comprises ethylene in an amount of from 10 to 50 wt. % of the copolymer (col. 2, lines 3-12). Therefore, one of ordinary skill in the art would have recognized to have used an impact modifying copolymer comprising ethylene in an amount of

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from 10 to 50 wt. % of the copolymer as the impact modifying copolymer of Gluck et al. since impact modifying copolymers comprising ethylene in an amount of from 10 to 50 wt. % of the copolymer are suitable impact modifying copolymers for polyamide compositions, as taught by Chou.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used an impact modifying copolymer comprising ethylene in an amount of from 10 to 50 wt. % of the copolymer as the impact modifying copolymer of Gluck et al. since impact modifying copolymers comprising ethylene in an amount of from 10 to 50 wt. % of the copolymer are suitable impact modifying copolymers for polyamide compositions, as taught by Chou.

Furthermore, and/or alternatively, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have varied the relative amount of ethylene in the impact modifying copolymer of Gluck et al. in order to achieve the desired degree of impact strength modification of the polyamide composition depending on the particular desired end result, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). MPEP 2144.05 II.B.

8. Claim 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gluck et al. (USPN 6,254,949) in view of Iwata et al. (USPN 7,232,597).

Gluck et al. teach the line as discussed above in regard to claim 1.

In regard to claim 12, Gluck et al. fail to explicitly teach that the line (tube) is corrugated in subsections or in its entirety.

Iwata et al., however, disclose a corrugated polyamide tube (col. 1, lines 5-10) that has high mechanical strength, high flexibility and a high flexural resistance (col. 1, lines 33-36 and col. 8, lines 23-27). Therefore, one of ordinary skill in the art would have recognized to have corrugated the tube of Gluck et al. in order to improve the mechanical strength, flexibility and flexural resistance of the tube of Gluck et al. as taught by Iwata et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have corrugated the tube of Gluck et al. in order to improve the mechanical strength, flexibility and flexural resistance of the tube of Gluck et al. as taught by Iwata et al.

In regard to claim 13, Gluck et al. fail to explicitly teach that the line (tube) is configured as a corrugated pipe having a smooth inner layer.

Iwata et al., however, disclose a corrugated polyamide tube (col. 1, lines 5-10) that has high mechanical strength, high flexibility and a high flexural resistance (col. 1, lines 33-36 and col. 8, lines 23-27) and that comprises a flat (smooth) inner layer (col. 1, lines 37-41 and col. 2, lines 45-54). Therefore, one of ordinary skill in the art would have recognized to have corrugated the tube of Gluck et al. in order to improve the mechanical strength, flexibility and flexural resistance of the tube of Gluck et al. as taught by Iwata et al. and to have added a flat (smooth) inner layer to the tube of Gluck et al. since it is well known to add a flat (smooth) inner layer to a corrugated tube in order to render the inner surface of the corrugated tube flat (smooth) as taught by Iwata et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have corrugated the tube of Gluck et al. in order to improve the mechanical strength, flexibility and flexural resistance of the tube of Gluck et al. as taught by Iwata et al. and

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to have added a flat (smooth) inner layer to the tube of Gluck et al. since it is well known to add a flat (smooth) inner layer to a corrugated tube in order to render the inner surface of the corrugated tube flat (smooth) as taught by Iwata et al.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is (571) 272-1488. While the examiner sets his work schedule under the Increased Flexitime Policy, he can normally be reached on Monday-Friday from 8:45am to 5:15pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris, can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Walter B. Aughenbaugh
01/31/08

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